

**IN THE ABSTRACT:**

Add the Abstract appearing on the following separate sheet:

A thermal overload protection for an electrical device, particularly an electric motor (M), measures a load current supplied to the electrical device (M), and calculates the thermal load on the electrical device on the basis of the measured load current, and shuts off (S2) a current supply (L1, L2, L3) when the thermal load reaches a given threshold level. The protection comprises a processor system employing X-bit, preferably X=32, fixed-point arithmetic, wherein the thermal load is calculated by a mathematic equation programmed into the microprocessor system structured such that a result or a provisional result never exceeds the X-bit value.